12 NICOTINE INDUCED ALTERATION IN PHOSPHATASE ACTIVITY IN PLASMA, LIVER AND KIDNEY OF RATS.

S. Dasgupta, C. Mukherjee and S. Ghosh
Department of Physiology, University of Calcutta,
92, A. P. C. Road, Calcutta-700 009
India

Acid and alkaline phosphatase activities were estimated in plasma, liver and kidney of male Wistar rats treated with nicotine, to assess the functional significance of toxic reactions of nicotine. Nicotine was administered at a dose of 400 ug kg^{-1} b.wt. s.c. (Rosecrans, J.A. Fred. Proc. 29(2) : 748, 1970) for seven days. The enzyme activities were estimated by the standard method (Bessey et al, J. Biol. Chem. 1946, 164, 321-329), data being statistically analyzed using students "t" test.

Acid phosphatase increased in plasma but decreased in liver and kidney, both values being significant. Alkaline phosphatase significantly increased in plasma and kidney, while in liver the decrease was significant. These findings point to a probable mechanism of action of nicotine, involving changes in enzyme synthesis, overall metabolic status of liver as well as lysosomal damage.

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